

3.6 Plants and Animals

Review of EIS Section and Previous Analysis

The 1992 Final EIS reported six plant communities within the study area:

- **Douglas fir forest:** This was a stand of trees with an overstory dominated by Douglas firs and understory with mixed invasive and native shrubs and brush located in the southwest quadrant of the SR 520 and SR 202 interchange. Most of this stand has since been harvested and replaced with buildings and SR 202 widening.
- **Ruderal field:** These are former agricultural or waste fields located in the southeast, northwest, and northeast quadrants of the SR 520 and SR 202 interchange. The fields are now occupied by buildings or were incorporated into the Bear Creek stream rehabilitation.
- **Riparian woodland:** This was a mix of vegetation adjacent to Bear Creek that has since been converted during the stream rehabilitation to include native vegetation and habitat features.
- **Freshwater marshes and grasslands:** These were inappropriately identified in the 1992 Final EIS and are constructed stormwater detention and treatment ponds surrounded by grassy swales located in the SR 520 and West Lake Sammamish Parkway interchange. The ponds would remain in their current condition.

Regulations (as amended) that were in effect in 1992 included the following:

- Endangered Species Act (1973)
- Migratory Bird Treaty Act (1918)
- Bald Eagle Protection Act (1940)
- State game and nongame protection laws that protect locally occurring species and habitats further or in addition to federally protected species; state protection emphasis might be placed on species identified with locally diminished populations and sensitive habitats
- City of Redmond Sensitive Areas Ordinances (now the Critical Areas Ordinance) requiring studies to identify wildlife habitats within the project

Methodology

WSDOT staff queried multiple sources about wildlife occurrences and habitat to prepare this addendum, including the following:

- Reviewing high-resolution aerial photographs
- Conducting field reviews during January and December 2005; habitat locations and species seen or expected to occur within the project limits were noted
- Reviewing WDFW PHS databases (WDFW 2005a, 2005b)
- Reviewing WDNR Plant Heritage of Washington database (WDFW 2005a)

Coordination Efforts

Wildlife use and distributions were investigated via e-mail exchanges with WDFW personnel and individuals with local knowledge of the study area wildlife (Stofel 2006; Hein 2006). Local regulations were requested from the City of Redmond (Beam 2006).

Affected Environment

Bear Creek runs parallel to SR 520 between SR 202 and the confluence with the Sammamish River. A portion of the creek was rehabilitated and relocated during a previous construction phase for the SR 520 improvements. The formerly straightened stream channel was widened, meanders and backwater channels created, log jams and large woody (LWD) debris added to the channel and banks, and the riparian edges and islands planted with native trees, shrubs, and emergent vegetation. Wildlife tolerant of urban settings use the riparian vegetation and stream for residence, foraging, and movement between other habitats. Beavers have modified portions of the vegetation and stream banks, while songbird nests have been found in the existing and planted trees and shrubs. A coyote was seen foraging adjacent to the stream, and numerous small mammals had left footprints in the mud. The stream flows to the Sammamish River and is accessible to resident and migratory fish, such as cutthroat trout and Chinook, sockeye, and coho salmon. The fish might become prey and attract predatory mammals, like river otters and mink. Red-tailed hawks, barn and great-horned owls, bald eagles, and osprey nest in Marymoor Park south of SR 520. These predatory raptor species forage for small mammals, fish, and bird prey species in the Bear Creek rehabilitation area and maintained grassy areas adjacent to SR 520. Great blue herons frequent the stream to forage on fish, small mammals, and herptiles.

The project design would widen SR 520 north toward Bear Creek to avoid impacts on Marymoor Park and wetlands on the south side of SR 520. Impacted vegetation mainly would be grass in the highway right-of-way that is maintained with mowers. A row of approximately 97 trees (Table 3.6-1, Figure 3.6-1) parallels SR 520. These trees would likely be removed to accommodate the roadway widening and highway safety clear zone.

The WDFW Wildlife Heritage and WDNR Plant Heritage databases were reviewed to locate federally listed TES and their designated critical habitats within one mile of the project. Chinook salmon are expected to use Sammamish River and Bear Creek, and one bald eagle nest was located nearly one mile southeast of the project. No other listed animals or plants are expected to exist within one-half mile of the project, a distance expected to be the furthest extent of project impacts.

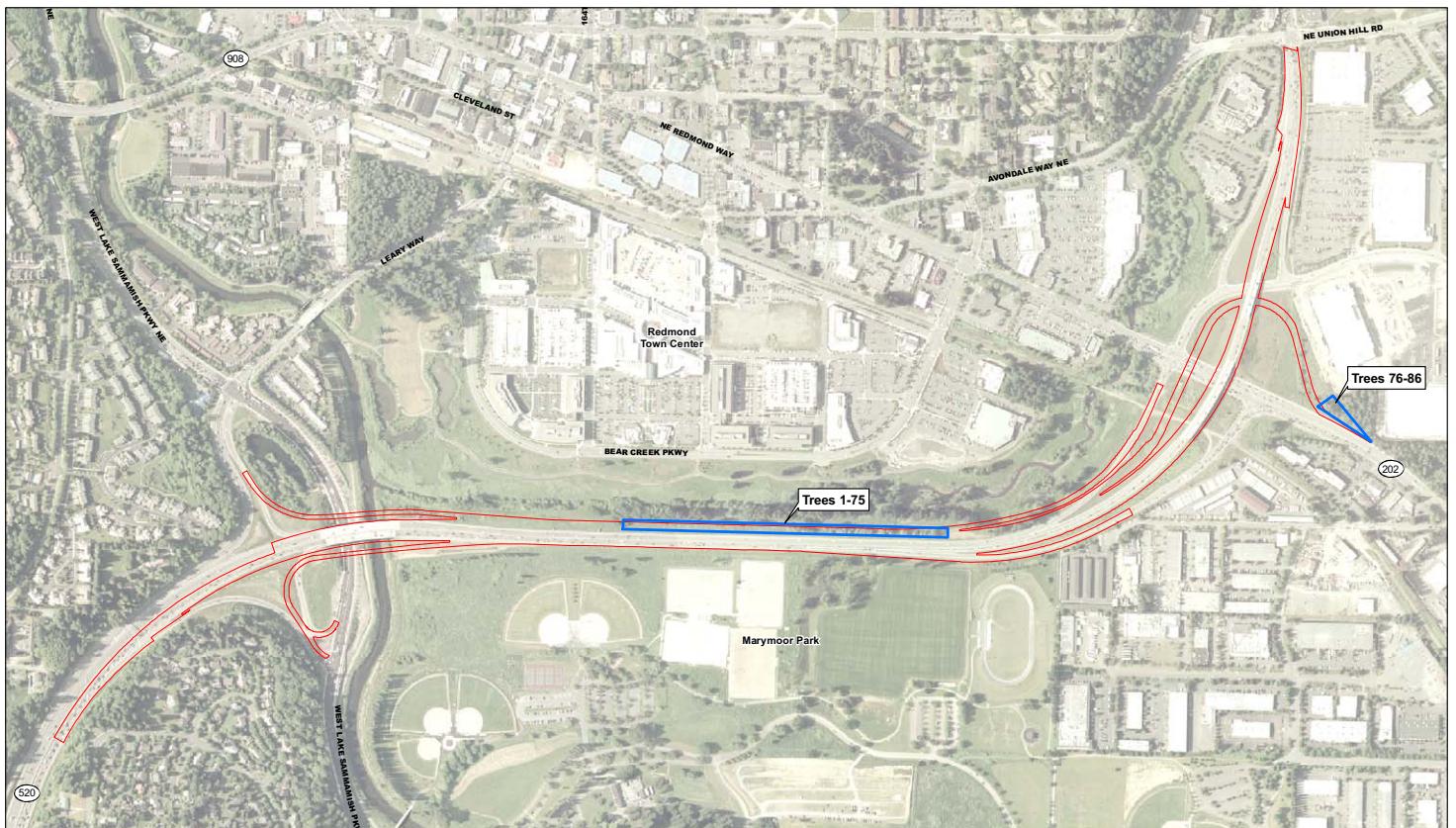
Chinook salmon run sizes in the Bear Creek system were depressed during the 1980s and early 1990s but appear to be on an upward trend since 1998; in fact, the run sizes occasionally exceed escapement goals set at 350 fish (Kerwin 2001). In a 2002 status report (WDFW 2002), the North Lake Washington Tributary Chinook stock was considered “healthy.” Chinook salmon do not spawn within the study area; however, Sammamish River and Bear Creek serve as migration routes and provide rearing habitats.

TABLE 3.6-1
SR 520 Tree Inventory

Tree number	Diameter at Breast Height (inches)	Tree Species
Trees between SR 520 and Bear Creek		
1	20	Douglas Fir
2	22	Douglas Fir
3	20	Douglas Fir
4	20	Douglas Fir
5	25	Douglas Fir
6	20	Douglas Fir
7	10	Western red cedar
8	13	Western red cedar
9	34	Black cottonwood
10	8	Black cottonwood
11	16 (X 3 in group)	Black cottonwood
12	24	Black cottonwood
13	10	Black cottonwood
14	40	Black cottonwood
15	10	Black cottonwood
16	46	Black cottonwood
17	45	Black cottonwood
18	47	Black cottonwood
19	20	Black cottonwood
20	22	Black cottonwood
21	10 (X 3 in group)	Black cottonwood
22	26	Black cottonwood
23	22	Black cottonwood
24	21 (X 3 in group)	Black cottonwood
25	16	Oregon ash
26	14	Oregon ash
27	11 (X 2 in group)	Oregon ash
28	6	Oregon ash
29	12	Oregon ash
30	8	Oregon ash
31	16	Oregon ash
32	10 (X 2 in group)	Oregon ash
33	8 (X 3 in group)	Oregon ash
34	10 (X 2 in group)	Oregon ash
35	8 (X 2 in group)	Oregon ash
36	10	Oregon ash
37	7	Oregon ash
38	10 (X 3 in group)	Oregon ash
39	10	Oregon ash
40	9	Oregon ash
41	11	Oregon ash
42	8	Oregon ash
43	12	Oregon ash
44	7	Oregon ash
45	7	Oregon ash
46	10	Oregon ash
47	8	Oregon ash
48	12	Oregon ash
49	12	Oregon ash
50	12 (X 2 in group)	Oregon ash
51	14	Oregon ash

TABLE 3.6-1
SR 520 Tree Inventory

Tree number	Diameter at Breast Height (inches)	Tree Species
52	7	Oregon ash
53	8	Oregon ash
54	8 (X 2 in group)	Oregon ash
55	9	Oregon ash
56	9	Oregon ash
57	14	Oregon ash
58	7	Oregon ash
59	11	Oregon ash
60	38	Black cottonwood
61	11	Oregon ash
62	9	Oregon ash
63	10 (X 2 in group)	Oregon ash
64	8	Oregon ash
65	12 (X 2 in group)	Oregon ash
66	12	Oregon ash
67	6 (X 2 in group)	Oregon ash
68	7 (X 2 in group)	Oregon ash
69	7	Oregon ash
70	9 (X 2 in group)	Oregon ash
71	7	Oregon ash
72	10 (X 2 in group)	Oregon ash
73	10	Pine ssp
74	12	Maple ssp
75	14	Pine ssp
Subtotal		Black cottonwood: 23; 8 to 46 inches dbh Douglas fir: 6; 20 to 25 inches dbh Western red cedar: 2; 10 to 13 inches dbh Oregon ash: 63; 6 to 16 inches. dbh Pine ssp: 2; 10 to 14 inches dbh Maple ssp.: 1; 12 inches dbh
Trees at SR 522 and SR 202 Intersection Northeast Quadrant		
76	28	Douglas Fir
77	27	Douglas Fir
78	25	Douglas Fir
79	24	Douglas Fir
80	25	Douglas Fir
81	20	Douglas Fir
82	25	Douglas Fir
83	26	Douglas Fir
84	18	Douglas Fir
85	22	Douglas Fir
86	16	Douglas Fir
Not numbered	4 through 11	Black cottonwood
subtotal		Black cottonwood: 17; 4 to 11 inches dbh Douglas Fir : 11; 16 to 28 inches dbh
Total number of trees by species		Douglas Fir: 17 Western red cedar: 2 Black cottonwood: 40 Oregon ash: 63 Pine ssp: 2 Maple ssp: 1



- █ Limit of Tree Removal
- █ Project Footprint (Edge of Pavement)

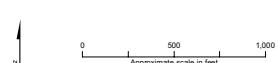


FIGURE 3.6-1
Limits of Tree Removal
 SR520/West Lake Sammamish Parkway to SR 202

File Path: P:\WSDOT\184764\SR520\GIS\Layouts\Tree_Removal.mxd

There are no bald eagle communal roosts or management zones identified within a one-half mile of the project. Bald eagle foraging opportunities in Bear Creek are limited because there are no large gravel bars to scavenge spawned out salmon carcasses. Dense riparian shrubs likely hamper flight pathways for eagle access to the stream bank within the restoration reach.

There are no known occurrences of bull trout in Bear Creek or its tributaries; however, there are no physical impediments to the species entering these waterways. The existing degraded water quality, elevated temperature, and substrate conditions of the Sammamish River and Bear Creek likely preclude bull trout from spawning in either stream. Bull trout use of the Lake Sammamish system within the study area is expected to be restricted to foraging and migration between suitable thermal habitats. The nearest documented bull trout occurrences are in Lake Washington and the upper reaches of Issaquah Creek tributaries.

The Biological Assessment prepared for this project provides greater details of listed species and their habitats within the study area.

Impacts

Potential temporary and permanent wetland and wetland buffer impacts were assessed using 20 percent design construction footprints. This project would be constructed in two phases. The first phase would construct a new flyover ramp connecting northbound SR 202 with westbound SR 520 at the east end of the study area. No adverse vegetation or wildlife habitat impacts would be expected from this work because it would be constructed within the existing right-of-way on previously cleared and graded ground.

The second construction phase would widen the roadway approximately 84 feet to the north towards Bear Creek between SR 202 and West Lake Sammamish Parkway. At the west end of the study area, two additional bridges would be constructed over the Sammamish River for new on- and off-ramps to West Lake Sammamish Parkway. At the east end of the study area, existing SR 520 mainline bridges over SR 202 and 76th Street NE would be reconstructed.

Direct impacts on sensitive habitats would include the loss of wetlands and trees between SR 520 and Bear Creek. Wetlands would be permanently filled, including 0.61 acre of Category 3, 4, and 5 wetlands and approximately 1.25 acres of wetland buffer. Creating wetlands at the Happy Valley wetland mitigation site adjacent to SR 202 south of the study area would mitigate these impacts. Although the trees to be removed might provide shading, perching, and nesting habitat, there are no known nests or rookeries that would be removed by project construction.

Indirect impacts on wildlife and habitats would include removing trees that provide shade for wetlands and contribute organic matter to Bear Creek. Roadway encroachment near the riparian buffer might deter wildlife from the area or reduce the amount of time animals spend along Bear Creek. Small mammal and herptile habitat would be reduced in the grassy areas adjacent to SR 520 thereby diminishing forage opportunities for birds of prey and predatory mammals.

The project would add 12.3 acres of new impervious surface that would require enhanced treatment for the additional stormwater runoff. WSDOT would increase treatment at existing stormwater treatment facilities, as well as construct several new treatment facilities in the study area. The Surface Water section (Section 3.3) of this addendum provides additional information.

Mitigation Measures

Efforts to offset project impacts on wetlands and habitats are discussed in Section 3.5, Wetlands. No additional wildlife habitat features or provisions other than those associated with the wetland mitigation site would be required for this project.